



**FUNDAMENTALS OF CANINE ETHOLOGY TELECOURSE
LECTURE NOTES**

January 2004

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**FUNDAMENTALS OF CANINE ETHOLOGY
COURSE OUTLINE**

Week 1

Introduction – What ethology is and is not.

Domestication – How dogs got to be the way they are.

How domestication influences behavior

The relationship between wolf behavior and dog behavior

Development of Normal Behavior – The role of early experience

Behavioral development in dogs

Sensitive periods and socialization in dogs

Puppy tests

Questions and Answers

Week 2

Genetics and the Behavior of Dogs

What genes do and don't do

How behavior is inherited

Breeding for specific behaviors

Breed differences in dogs

Developing realistic expectations

Motivation, Drives and Instincts

Drives and instincts – Problems with the concepts

Innate behaviors vs. fixed action patterns

Temperament traits in dogs – What is fixed and what isn't?

Questions and Answers

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Week 3

Social Dominance

- Definitions
- Dominance hierarchies
- Why is it important
- How it is used and misused in dog behavior
- Dealing with dominant dogs

Social Conflicts

- Agonistic behavior
- Threats
- Submission
- Avoidance
- Aggression

Understanding Canine Communication – Part 1

- Observation vs. interpretation
- Observing body postures – What to watch for
- Interpreting the body postures of dogs – What do they mean?
- Threats, aggression, submissive and friendly behaviors
- Greeting behaviors in dogs
- Displacement behaviors and “calming signals”

Questions and Answers

Week 4

Understanding Canine Communication – Part 2

- Observation vs. interpretation
- Observing body postures – What to watch for
- Interpreting the body postures of dogs – What do they mean?
- Threats, aggression, submissive and friendly behaviors
- Greeting behaviors in dogs
- Displacement behaviors and “calming signals”

Other Social Concepts Important to Understanding Dogs

- Communication
- Personal Space & Flight Distance
- Territory
- Social Facilitation
- Affiliation
- Play
- Greeting Behavior

Questions and Answers and Wrap up

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WEEK I

INTRODUCTION TO COURSE

Animal behavior is more than just common sense. Scientific studies have shown us that some things we think are true about dogs aren't. Consider this statement: "Dogs know they have done wrong because they look guilty when you confront them with their bad behavior. If you take a dog over to something he has chewed up and punish him, he will learn not to do it again." Is this true?

This course is going to introduce you to ethological concepts and principles that will help you understand canine behavior from a more scientific, objective perspective. You must be able to do this if you are going to develop effective training protocols, and know what to do when you run into problems. Misinterpreting the "why" of behavior can cause you to choose the wrong action to take to – whether you want to elicit, suppress, or change behavior.

DOMESTICATION

Why is this an important topic?

GLOSSARY

Anthropomorphism – People attributing human characteristics to animals. This is a very normal, human thing to do, but it can lead to false conclusions about why dogs do what they do and even to abuse of the animal. There is no evidence that dogs experience guilt, spite, revenge or shame. Attributing these reactions to dogs as motivations for their behavior will lead to inappropriate and/or ineffective attempts to change the behavior.

Artificial selection – the process by which people choose different traits of animals they perceive as desirable and purposely breed animals for particular phenotypes.

Commensalism – a relationship (symbiosis – living together) between organisms of different species (can be either animals or plants) in which one benefits from the association, but the other is neither harmed nor derives any benefit from the relationship. Some authors have described the dog-human relationship as commensal; others have described it as mutualistic (both benefit), while others (Budinsky) have described it as parasitic (the dog benefits, but people are harmed).

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Conspecifics – members of the same species.

Domesticated - An animal that's breeding and care has been under the control of humans for several generations and that now is physically and behaviorally different from wild animals. Dogs, cats and horses are examples.

Feral - A domesticated animal that is in the process of returning to a wild existence. It is no longer under human care and control, although its behavior may be influenced by humans. It may also be genetically different from its domestic counterpart and its wild ancestors.

Flight distance – the distance between an animal and its predator (or other threat) that will cause it to flee. The distance that a wolf might allow a human to approach before fleeing.

Natural selection – the process by which certain individuals in a population leave more offspring (and thus more copies of their genes) because their genotype conveys a survival advantage. Said another way, naturally occurring factors favor certain genotypes over others. (Note that artificial selection is usually based on phenotype, while natural selection is based on genotype).

Neoteny – the persistence of infantile or juvenile characteristics into adulthood.

Neotenic traits can be both physical and behavioral. Playful behavior is a neotenic trait.

Large eyes in relation to the size of the face, and short, rounded noses or muzzles are examples of neotenic physical traits.

Niche – the place an animal occupies in ecological space; the living space it occupies. This may be defined not only by physical features such as climate and geography, but also by its biological inter-relationships. An animal's behavior often has a strong influence over which niches it can inhabit.

Socialized – there are many definitions of this term, both precise and very imprecise. We will define it as a dog that has acquired normal social capabilities with both conspecifics and people.

Tamed - An animal that will tolerate physical contact with humans. The flight distance regarding humans is zero.

Wild animal - An animal whose breeding and care are not under the control of people. They may live in close association with people, like house mice, or they may live apart from humans like porcupines.

Zoomorphism – Animals attributing animal characteristics to people. This means that dogs will tend to interpret human behavior as if humans were dogs. A dog may not interpret a person staring at it as friendly but as threatening.

OVERVIEW

Animals such as dogs, cats, chickens, horses, hamsters and Siamese fighting fish are domesticated. **Domesticated** animals may not be **tame** and vice-versa. For example, dogs, cats and horses that are not exposed to people early in their lives will not be tame even though they are domesticated. Some wild animals, such as birds in the Galapagos Islands that have never seen people, are not fearful of people and are tame.

Domesticated animals can revert to a wild existence, such as the case of feral cats, dogs, pigs and horses. These animals will not be tame unless they get early exposure to people and have good experiences with them. The behavioral and physical traits, such as

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coat color, of feral animals often revert to those of wild animals in a very few generations.

Most experts now agree that the wild ancestors of dogs were wolves (Canis lupus). It is possible that some populations of dogs have been crossed with other wild canids such as jackals. Dogs have been domesticated for at least 14,000 years and are thought to be our oldest domesticated animal.

TWO THEORIES OF DOMESTICATION:

Traditional:

As presented by Clutton-Brock, 1995; 1999:

- Domestication was an active process initiated by humans
- Made possible because hunting ranges of wolves and early people overlapped
- Reason for domestication – mutual benefit – cooperative hunting
- Sequence of events –
 - live pup may have been rescued, and if not eaten, would be carried around, remain with the family group and become tamed
 - the pups that matured with “normal” or typical characteristics, would have been driven out of camp
 - the more submissive ones might have stayed and bred with other ‘tame’ wolves hanging out around the settlement, or humans purposely bred the ‘tame’ animals
 - as this small group of “tamed wolves” began to breed with each other – they began to be genetically different from wild population

Concerns or Potential Fallacies

- What are assumptions that people question about this scenario?
 - that it’s easy to tame wolf pups
 - that wolves easily form associations with people
 - that tame wolf pups act like dogs
 - that tame wolves would associate with people and not breed with wild population
 - that the spontaneous appearance of more submissive behavior toward people appeared quite frequently in order to provide a relatively large pool of ‘tame’ wolves which were breeding to create a new species
 - that people understood genetic selection

Alternative Theory

as presented by Coppinger, 2001

- People create a new niche, the village
- Some wolves invade the new niche and discover a new food source
- those wolves that can use the new niche are genetically predisposed to show less ‘flight distance’ than those who can’t – e.g. they would have had to be more tolerant of the presence of humans.

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- Wolves naturally shy of people – alert ones wouldn't have been able to exploit the dump because would have been constantly alerting, fleeing, spending too much energy. Probably not coming back.
- Exploiting dump doesn't require a pack – individuals could do. These dump dogs were semi-solitary animals without a complex pack structure which calls into question the applicability of the whole “dominance, pack theory” to dogs (another reason why taking a second look at domestication is so important and relevant).
- Ability to eat in proximity of people, shorter flight distance – trait that was exploited by natural selection.
- Hypothesis of self-domestication of the dogs rests on variations in flight distance the tamer wolves gain selective advantage in the new niche over the less tame ones. – e.g. more food, better survival of offspring.

SOME WAYS DOGS AND WOLVES DIFFER:

- wolves have one breeding period, dogs have two
- dogs are more promiscuous in mating than wolves
- male wolves are more involved in parental care than dogs
- wolves are more neophobic than dogs which affects their ability to display social behavior toward unfamiliar people
- dogs possess more neotenic physical and behavioral traits than wolves
 - includes play, barking
- wolves seem to be more territorial and more protective of their young
- wolves routinely display the complete sequence of predatory behavior, dogs do not
- social groups of wolves are more closed than those of dogs
- social dominance hierarchies are more rigid and more important in group maintenance in wolves than in dogs
- wolves are more difficult to train and tame
- wolves are more reactive, more difficult to control and more dangerous to people than dogs
- wolves may be better problem solvers than dogs
- dogs are more variable in their behavior and more adaptable

DISCUSSION QUESTIONS:

1. Think of reasons why the dog/human relationship might be described as mutualistic, commensal, or parasitic.
2. If early domesticated dogs had much less of a group structure than wolves, what implications does this have for the popular “pack theory” and the importance of and procedures used to be dominant over your dog that have been ubiquitous in the dog training literature?

DOG DEVELOPMENT, EARLY EXPERIENCES AND BEHAVIOR

GLOSSARY

Heterospecifics – members of different species

Neonatal – the period immediately after birth

Sensitive period - the time when a particular environmental influence can more strongly influence the organism than at other times.

Site attachments – probably represents the same process as socialization, except applied to locations or the physical environment. However, the process has not been studied separately from socialization.

Socialization - the process by which animals learn their species identity and develop primary attachments to conspecifics and other species.

Two factors act together to determine the growth and behavior of animals - their genetic complement and the environments in which they are raised and live. Here we will focus on how environmental influences early in life can affect behavior.

The behavior of dogs changes rapidly and dramatically during the first weeks of life. An outline of these changes can be seen in the accompanying figure. The early development of puppies has been divided into four periods – the neonatal from birth to about 2 ½ weeks, the transitional from 2 ½ to 3 ½ weeks, the socialization from 3 to 12 weeks and the juvenile from 12 weeks to sexual maturity which can be 9 to 18 months of age.

While learning can occur in puppies younger than three weeks, incompletely developed sensory and motor systems greatly reduce what can be learned. Learning becomes easier during the socialization period and into the juvenile period. Puppies as young as 8 weeks can be taught to sit and come, but short attention spans make complex learning more difficult, so owners and trainers must be more patient and persistent in teaching younger animals.

Early experiences are very important for the development of normal social behavior in animals. There is a **sensitive period** early in the life of animals during which they learn their species identity and learn which animals they should affiliate with later in life. A **sensitive period** is a time when a particular environmental influence can more strongly influence the organism than at other times.

Socialization is the process by which animals learn their species identity and whom they should be friendly with and who should be feared and avoided. The **sensitive period for socialization** in dogs is from 3 -12 weeks of age, that is, during the socialization period of growth.

The sensitive period for socialization in cats is earlier and shorter, occurring from 2 -7 weeks of age. Animals exposed in a friendly, non-threatening way to people, other dogs, cats or other animals will be more friendly with them as adults and less likely to treat them as enemies or prey.

The sensitive period for socialization starts when the puppy's eyes and ears are open and functional. It ends with the development of fearfulness of new animals, people, places and things.

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To be precise, there are two fear periods in puppies, one that starts at about 8 weeks of age and another that starts at about 12 weeks of age. These tend to keep the puppy from developing new, positive relationships with others.

This socialization can be done later in the animal's life but usually requires much more time and effort to accomplish. Socialization does not require reinforcement or rewards to occur, but high arousal in the animal may facilitate it.

During the transition and sensitive periods puppies practice social communication with their littermates and mom and learn social limits to their behavior. Puppies isolated or restricted from this social contact often develop severe social problems – what has been called “kennel dog syndrome”.

There may be a sensitive period for exposure to different situations, places and things that is at about the same time as the sensitive period for socialization. This early acclimatization of animals to new things is sometimes referred to as socialization as well, although to be precise, it has nothing to do with social relationships.

Socialization and acclimatization experiences of puppies must be pleasant and non-threatening from the puppy's point of view. Forcing a fearful dog to experience new people, animals, places or things can be worse than no experiences at all and can create long-lasting fears that are difficult to change.

What should breeders do to help create normal, well socialized dogs?

What should owners, trainers and veterinarians do to help prevent problems with these dogs?

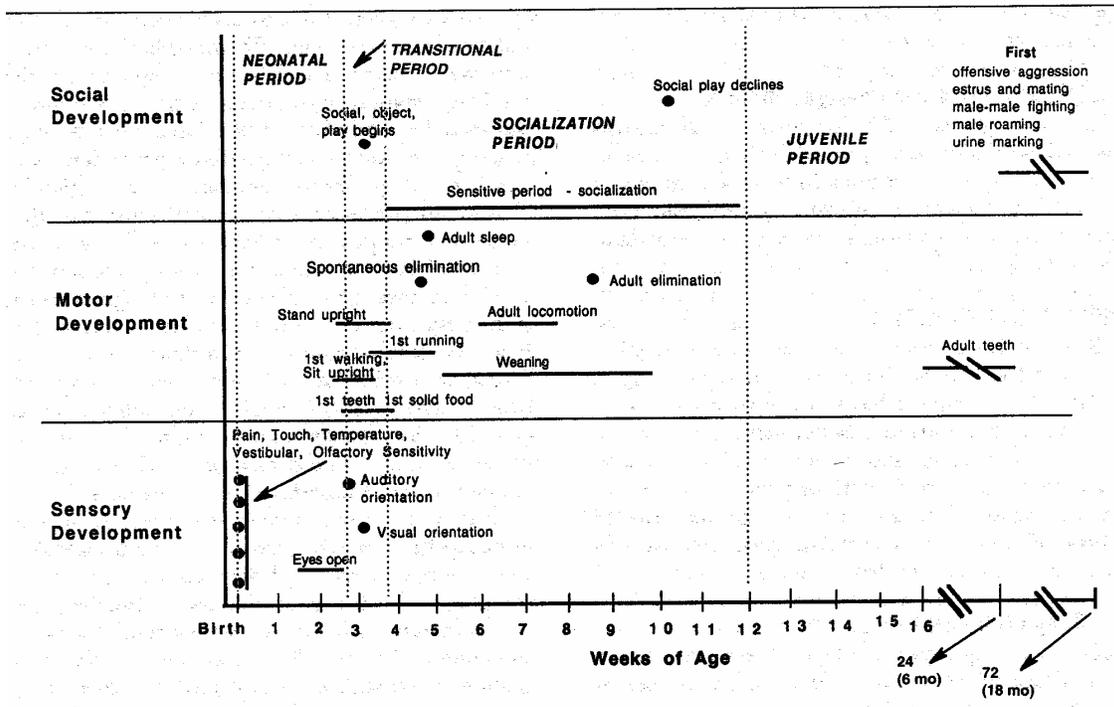
Puppy tests have been used to predict the adult behavior of dogs. Dominance aggression can purportedly be predicted from puppy tests. Two different studies have shown however that puppy tests are not predictive of adult behavior.

Observations of puppies in their litters show that they “try on” different roles, and that dominance status is not stable and predictive of later relationships.

Is there a “best” way to pick a puppy? What should prospective owners look for in a puppy or what should they avoid?

THOUGHT QUESTIONS:

- 1) If you want a dog to be good with cats, at what age would it be best to expose the dog to cats?
- 2) If you have a dog that is afraid of people, can you get her to be better with people by forcing her to be around them? Why or why not?
- 3) Given what is known about sensitive periods for socialization in puppies and the time of onset of fear periods, when is the best time to take a puppy home? When is the worst time?
- 4) If puppy tests are not predictive of adult behavior, is there any value to using them? If so how might they be used?



Created by D.Q. Estep

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**WEEK II
GENETICS AND BEHAVIOR**

INTRODUCTION

Some of the factors that can influence a dog's behavior are: 1) the **genetic constitution** of the animal, 2) the **early socialization** of the animal, 3) the later **learned experiences** of the animal, 4) the **age** of the animal, 5) **sex and reproductive condition** of the animal, and 6) the **medical condition** of the animal. These factors are not operating independently of another, but instead co-act to influence behavior. Experiences and early socialization for example may affect different effects on different genotypes.

The first two factors will be dealt with in this course, while learning will be covered in the course on canine learning. We will not cover age, sex and medical conditions here, but realize that sick animals may behave differently than healthy animals, old dogs behave differently than puppies and neutered males behave differently from intact males.

Genes don't directly cause behavior. Genes make proteins and enzymes and through a complex process involving many genes and environmental influences, behavior results. Neither genetic factors nor environmental ones are more or less important for development. Nature (genes) co-acts with nurture (the environment).

Genes influence all behavior, and research has shown them to influence behavioral patterns such as aggression, fear, friendliness and learning. It is not correct to speak of some behaviors (such as aggression) as being genetic or inherited and others not. It is also not appropriate to talk about a behavior being a certain proportion genetic (such as fear is 60% genetic or inherited).

GLOSSARY

Allele – different versions of a gene, which are often (but not always) in a dominant or recessive form.

Dominant gene – a gene that requires only one copy of the allele in order to be expressed (e.g. a trait 'N' will be expressed whether the genotype is NN or Nn).

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Environment - all the parts of the animate and inanimate world that can influence animals, such as things they eat, temperature, humidity, and the different experiences they have including learned experiences.

Gene – the minimum unit of replication in genetic transmission; the basic unit of heredity. Genes are contained on chromosomes. Most traits are affected by multiple genes, and each gene usually affects multiple traits.

Genetics – the study of heredity

Genotype - the genetic complement of an animal

Phenotype – the observable characteristics of an animal. Is the result of the interaction between the dog's genotype and his environment. Dogs with the same genotype can have a different phenotype (look and act differently), while dogs with similar phenotypes can have different genotypes.

Recessive gene – a gene that requires two copies of the same allele (homozygous) in order to be expressed (e.g. for a trait 'n' to be expressed, nn is required; the trait 'n' won't be expressed if the genotype is Nn)

Why is a discussion of genetic factors important?

be better able to understand and explain behavior to your clients

avoid erroneous statements or conclusions

be able to think more precisely about whether or not behavior can be changed

What behaviors do you often hear described as inherited?

hunting ability

aggressiveness

fear

ease of housetraining (aren't ____ supposed to be hard/easy to housetrain?)

What does it mean to say a trait or behavior is inherited?

do we mean there is a gene for fear?

a gene for aggressiveness?

a hunting gene?

a gene for housetraining?

a gene for chasing moving objects?

a gene for spots?

a gene for eye color?

a gene for coat color?

a gene for everything?

Whether a behavior is “inherited”, or how much of a behavior is ‘inherited’ aren't answerable.

They aren't even the right questions to ask. It's sort of like asking how often do you hit your significant other? The wrong question will lead you to the wrong answer.

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What are the right questions?

What do genes do?

they code for enzymes
they make proteins
some enzymes turn other enzymes on and off.

How do genes affect behavior?

PKU example

Go to --- <http://www.abc.net.au/catalyst/stories/s953902.htm>

How can genes and the environment interact to produce behavior?

How much of the variability in a trait in a population of dogs is due to genetic factors?

Heritability can only be measured on populations of animals, not on individuals.

Since behavior isn't strictly inherited, is it possible to select for differences in behavior in dogs?

Yes, but it's complicated. It depends partially on the specific behavior. Also, heritabilities are applicable only to the particular environment in which they are measured. For most behavioral traits in dogs, heritabilities are unknown, and there is no consistency in the environments of the offspring. This limits the efficiency and success rate for selective breeding attempts. Attempting to select for some traits may have deleterious effects on other traits.

DISCUSSION QUESTIONS:

1. What should a breeder do if she discovers a puppy from one of her litters has developed an aggression problem? Should she continue breeding this particular sire and dam?
2. What influence does the information presented have on your interpretation of such statements as "Pit bulls are inherently dangerous", or "Golden retrievers make great family pets"?

MOTIVATION IN ANIMALS

GLOSSARY

Motivation - The causes of moment to moment changes in behavior.

Drive – An internal mechanism that energizes behavior and contributes to short-term changes in behavior.

Instincts – Inborn internal mechanism that activates specific behaviors. Also the same as innate behaviors.

Innate Behaviors – Those behaviors that are the same in all members of the species (they are stereotyped) and are relatively uninfluenced by environmental fluctuations. Once thought to be inherited, unlearned and invariable in their development.

Fixed Action Pattern – A relatively stereotyped behavior that occurs in the same form in most members of the species.

Nominal Fallacy – The error in thinking that if you have named something, you have explained it.

Temperament (Personality) Traits – Relatively constant ways of behaving revealed by groups or clusters of related behaviors.

Motivation has been an important area of research in psychology and animal behavior for many years. Much has been learned about what causes behavior to change but these findings do not always filter down to dog owners and dog professionals. Sometimes scientists use words that have different meanings to them than to the general public. Both of these problems have occurred in the understanding of dog motivation.

Drive, **instinct** and **innate** are terms that were used by animal behaviorists and psychologists in the 19th and early 20th centuries to try to explain behavior. They fell out of favor and are no longer used by most scientists. The reasons are that these terms oversimplify the causes of behavior (the causes of behavior are more complex than originally thought) and they lead people to commit the **nominal fallacy**. Example: “Why is that dog so interested in chasing balls today?” “Because his prey drive is high right now.” “How will I know when my dog has high prey drive?” “He will want to chase balls.”

Drive and **instinct** have been used by some owners and trainers to refer not to moment to moment changes in behavior but to stable temperament or personality traits. So it has been said that some breeds or individual dogs may have high prey drive because they are consistently interested in chasing balls or other things. Used this way, the terms often fall victim to the nominal fallacy. Saying that Golden Retrievers have a high prey drive explains nothing. Drive and instinct cannot be both an explanation for short term changes in behavior and personality traits. To be a temperament trait, the dog would have to be observed in a number of different situations and show the trait consistently in many of these situations. Most owners and trainers do not have these observations. Dogs can have personality or temperament traits, but prey drive is not one of them.

It is often assumed that the temperament or personality traits of dogs are inborn, genetically determined, instinctive or innate. And that if they are innate, they cannot be changed. This is not true. Temperament traits may change with age and experience.

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Innate behaviors were once thought to be inherited, stereotyped in form, common to all members of the species and unaffected by the environment (unlearned). Research showed that these things are not always related. Behaviors common to a species may not be stereotyped. Almost all dogs bark, but when examined closely the form is not stereotyped. Some stereotyped behaviors can be changed through learning. For example, the sequence of acts in the mating of male dogs is fairly stereotyped but can be modified by experiences. As a result, the term innate behavior is no longer used in animal behavior but has been replaced with **Fixed Action Pattern**. This refers to a relatively invariant behavior but implies nothing about its development or the role of learning in its expression.

If it is not a good idea to use terms like instinct, drive or innate, then how do we talk about motivation and temperament traits in dogs? Motives can be used to describe behavior if it is recognized that they are only crude descriptions of behavior and not causes (eg. “that dog looks really hungry today” or “that dog is really motivated to fetch balls”). To really explain the motivations for a dog’s interest in fetching balls or threatening visitors at the door, we need to understand both the physiological changes and environmental changes that produce it. Things like neurochemistry, early experiences, more recent learning and so on. Our understanding of these causes is very poor for most behaviors.

There have been some studies of temperament in dogs but temperament traits only accurately describe the specific group of dogs studied in the place where they were studied. Studies of temperament of Labrador Retrievers being trained as assistance dogs will probably not apply to all dogs. For the present, we are probably better off talking about specific behaviors in specific dogs and trying to understand them rather than talking about temperament traits as explanations. So we may want to ask “Rover likes to chase balls, can I train him to compete in Fly Ball?” or “Tucker threatens the mailperson when she comes to the door, can I get Tucker to not threaten her?”

THOUGHT QUESTIONS

- 1) Can you think of two other fixed action patterns in dogs? Does labeling these behaviors as fixed action patterns tell you anything about how they develop or the role of learning in their expression?
- 2) Can you think of two other drives that people have talked about in dogs? Are they used to talk about short term changes in behavior or temperament traits? Do these drives really explain the behavior?
- 3) Can you think ways to train Rover to be good at Fly Ball? How could you change Tucker’s threatening behavior? Try to think of physiological as well as environmental means to do this.

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WEEK III

SOCIAL HIERARCHIES, ROLE RELATIONSHIPS, MYTHS AND
MISCONCEPTIONS ABOUT DOMINANCE

GLOSSARY

Aggression - behaviors intended to do harm. Examples - dog bites, cat scratches, and horse kicks.

Agonistic Behavior - A group of related behaviors displayed in social conflict contexts. Includes aggression, threats, appeasement and avoidance behaviors.

Appeasement or submission - behaviors that turn off threats or aggression. Example - dog rolled over on the back exposing the belly.

Avoidance behavior – behavior by which an animal ends a conflict by moving away from the other. Example - a dog running away from another dog that is growling at him.

Social Dominance - A pattern of social relationships within a group that allows resources to be divided among the members, and allows prediction of the outcome of competitive interactions, and what type of social signals individuals are likely to give and receive.

Territory - A space actively defended by an animal. Defense may include marking the area with scents (odors) or visual markers, or with threats and attacks. The area can be very large (a whole neighborhood) or small (a crate that the animal sleeps in). Example - A dog may growl and bark and lunge at the mail delivery person when she comes near the house.

Threats - behaviors that warn others of impending attacks. Example - dogs growling, cats hissing, horses laying their ears back.

INTRODUCTION

The term “dominance” or “dominant dog” or “he’s an alpha dog” are comments that we hear frequently when pet owners or others are describing their dogs or the reasons for behavior problems. The concept of “dominance” is very ingrained in the way we think about our relationship with our dogs, but what does it really mean, and does it do a good job of explaining dog behavior and helping us have better relationships with our dogs? Has “dominance” been confused with control?

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Where Does The Concept of Social Dominance Come From?

Dominance in its basic sense is related to outcomes of direct, competitive interactions and the giving and receiving of social signals between individuals. The basic concept of a “dominance relationship” merely allows for predicting the directionality of agonistic behaviors. Dominant individuals are more likely to be the recipients of submissive behaviors or avoidance and more likely to be the initiators of threats and aggression.

Dominance relationships can be useful to a group because it helps to sort out who gets access to what and when. Dominant individuals usually have priority access to certain resources. However, dominance relationships are neither permanent nor absolute.

The term “dominant dog” has been used more often than not to describe a personality trait rather than to describe a role relationship. It is often erroneous to invoke the term “dominant dog” to describe an unchangeable personality trait. While there are some dogs who tend to assume a dominant role in most or all of their relationships, it’s more likely that what role a dog assumes will change based on the dog’s social partner and the context.

Procedures Commonly Used To Establish “Dominance”, “Leadership” or Control

- Certain (or sometimes all) areas of the dog’s life must be controlled. These include his food, sleeping arrangements, playtime and grooming.
- The Alpha is in charge of who eats and when, and always eats first. Therefore, dogs must eat after their owners and people must never give into begging behavior.
- The Alpha always sleeps in the highest place with the best bedding. Therefore dogs must never be allowed to sleep on the bed with their owners. Owners are advised to occasionally move the dog’s bed and to sit in it in order to establish their rights to it.
- If dogs believe they are smarter, faster, more agile or stronger than their owners, they will think they are the leaders. Therefore, people must never play tug-of-war, chasing or wrestling games unless they can win all the time. Some people believe these games should never be played at all.
- Owners must have total control over grooming.
- The pack leader is responsible for territorial defense and exploration. Therefore, dogs must never be allowed to precede their owners through doors. People should make their dogs move rather than stepping around them.
- The pack leader decides who plays and can take toys away from others. Therefore, owners must keep toys out of their dogs’ reach and not give them free access to them. People must initiate play as, or more often, than their dogs do. If dogs are allowed to initiate play, they will think they are in control.

How relevant are these procedures?

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What do dogs really learn from the following interactions?

What Does A Dog Really Learn When:

- √ He pesters you (by barking, pawing at your hand or going to the treat container) to give him a tidbit and you comply
- √ He “looks sad” as he sits near the dinner table while you are eating, and you give him a tidbit. He eagerly eats it, and then looks sad again.
- √ He’s lying down in a doorway and you step over him, and he just lies there.
- √ He’s lying down in a doorway and using your voice and gestures, have him stand up and move to the side. You tell him sit and reward him.
- √ He’s lying down in a doorway and as you reach him, using a harsh voice tone, you physically move him to the side by grabbing his collar and shoving him. He moves, and his body postures indicate he is afraid.
- √ He’s excited to go for a walk and rushes out the door before you do. By the time you step out the door, he’s engrossed in sniffing a spot of grass.
- √ You feed your dog at 5pm, and he finishes his meal well before the family eats dinner at 6pm
- √ He growls at you if you look at him and you look away
- √ He growls when you attempt to take his pig’s ear away, and you walk away
- √ He growls when you attempt to take his pig’s ear away, and you pin him
- √ He growls when you attempt to take his pig’s ear away. You sit down near to him and begin to offer him tidbits. He stops growling, takes the tidbits and you take the pig’s ear.
- √ He jumps on the bed first, and welcomes you with kisses when you lie down next to him
- √ You sit down next to your dog on the couch and he ignores you and continues dozing.
- √ You play tug of war with your dog and he successfully pulls the toy out of your hand. He runs back toward you with the toy, you grab your end again and the game continues.
- √ You play tug of war with your dog and he successfully pulls the toy out of your hand. You are tired of playing and walk away.
- √ You play tug of war with your dog and he successfully pulls the toy out of your hand. Your dog tires of playing, drops the toy and walks away.
- √ You initiate play with your dog by throwing a tennis ball. He’s not interested and just lies on the floor, resting.
- √ Your dog brings his tennis ball to you and drops it in your lap for you to throw it. You do, he brings it back, drops it again. The cycle repeats.

How Has Dominance Aggression Been Described?

It has been used to describe threats and aggression that occur when the dog is in *direct* competition with the owner over a resource (the same space on the couch for example), or when the owner directs socially dominant (from the dog's perspective) signals to the dog. The dog threatens or aggresses when he is, or the owner:

hugged, pulled or restrained by owner
picked up, held, or rolled over
disciplined verbally or physically
disturbed while resting
groomed, bathed or wiped
stared at or stood over
reaches over the dog's head to pet him

approaches the dog's food or tries to take food away
attempts to put on or take off the dog's leash
attempts to take toys, clothes or other objects away from the dog, who guards them in a threatening manner

What Other Behaviors Have Been Attributed To "Dominance"

- does not respond or responds slowly to commands, including
 - » pulling on leash
 - » door dashing
 - » not coming when called
- is destructive
- is aggressive to other dogs, both within and outside the family
- is aggressive to non-family members
- is showing defensive aggression
- is aggressive toward children
- urine-marks and has an inappropriate elimination problem
- displays pestering, attention getting behavior
- barks excessively
- is coprophagic

What are some alternative explanations for these behaviors?

Consequences Of Invoking The Idea Of Dominance Unnecessarily And Inappropriately

- √ Irrelevant recommendations
- √ Harmful procedures
- √ Puts the dog in a negative light in the owner's mind
- √ Prevents accurate understanding of the behavior
- √ Delays appropriate interventions
- √ Delays behavior change and therefore increases owner frustration

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TYPES OF AGGRESSION MOST COMMONLY SEEN IN DOGS

1. **Medically caused** - Due to disease like rabies, brain tumors or epilepsy, or due to an injury.
2. **Pain-elicited** - Aggression in response to a painful stimulus such as hitting a dog with a rolled-up newspaper.
3. **Fear-elicited** - Caused by a fear-provoking stimulus. A dog frequently hurt by a young child may begin to growl and bite out of fear when the child approaches her.
4. **Maternal** - Aggression mothers show in defense of their young. A mare may attack a person who gets too close to her newborn foal.
5. **Territorial / Protective** - Aggression shown in defense of a territory, or people or other animals the protective animal is attached to. A cat may attack other cats coming too close to its home. A dog may attack a jogger that comes too close to his owner when on a walk.
6. **Possessive** - Shown in defense of food or other prized objects such as toys, treats or stolen objects. A dog may bite at people who walk by his feeding dish while he eats.
7. **Dominance** - Shown by an animal defending her social position or challenging the social position of another. A dog may bite another to be the first to get attention from a person.
8. **Predatory** - Not really aggression because it's behavior intended to do harm to another but for purposes of feeding the attacking animal. Dogs and cats can prey on a variety of other species. A group of owned dogs running at large attacks and kills several sheep owned by a farmer.
9. **Redirected** - Aggression caused by one person or animal that is directed to another when access to the first is blocked. Two dogs growling at another dog outside a fence may turn and attack each other.
10. **Mixed** - Aggression due to activation of two or more of the above types at the same time. A mix of territorial and fear-motivated aggression can frequently be seen in dogs that attack unfamiliar persons that come to the home.

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WEEK IV

OTHER IMPORTANT ASPECTS OF CANINE SOCIAL BEHAVIOR

GLOSSARY

Communication - A process by which one animal sends information that changes the behavior of another. There must be a sender, a receiver and a signal and a behavioral change must be seen. Example - A dog (the sender) growls (the signal) at the pizza delivery person (the receiver), who moves away from the dog (the change in behavior).

Personal Space - An area surrounding an animal that when invaded by another produces threat, aggression or flight. Example - A dog walks towards another dog. When the first dog gets within 3 feet of the second, the second gets up and moves away. All animals and people have personal space, although this area varies between animals and in different situations.

Flight Distance – The distance between two animals that elicits a flight response by one of them. In the example above, 3 feet was the flight distance of the second dog.

Territory - A space actively defended by an animal. Defense may include marking the area with scents (odors) or visual markers, or with threats and attacks. The area can be very large (a whole neighborhood) or small (a crate that the animal sleeps in). Example - A dog may growl and bark and lunge at the mail delivery person when she comes near the house.

Social Facilitation - An increase in the likelihood or frequency of a behavior because of the presence or activities of others. It is more common in highly social species like dogs, horses and chimpanzees. Only a few behaviors can be socially facilitated in dogs such as play, barking, feeding, fighting, aggression, or predation. Example - A dog that had stopped eating and seemed full, begins to eat again when he sees another hungry dog begin to eat.

Affiliation - Behavior that brings animals together or keeps them in close proximity to each other. This is “friendly” behavior. Examples – The face-licking greeting responses of dogs, cats rubbing their heads against others, mutual grooming in horses, play, sharing of food, maternal care.

Play – Behaviors made up of elements of other behaviors but out of context, incomplete, repetitive, exaggerated and having no apparent goal.

Greeting Displays – Specific behaviors that are used when animals come together after being apart for some period of time. They are usually affiliative or submissive behaviors.

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Not all social behavior in dogs is concerned with dominance and aggression. In fact most of the time when dogs are being social, the behavior is friendly or cooperative. To understand what bonds dogs to other dogs or dogs to people, you need to know about these other concepts as well.

Communication has been defined in many different ways, but the definition above allows us to be clear when communication is occurring because we see a change in the receiver's behavior. The change need not be immediate, it can take several minutes or hours to occur. People intend to communicate with their dogs by lecturing them or yelling at them, but unless a change is seen in the dog's behavior you can't conclude communication has occurred.

When different species try to communicate, like people and dogs, **miscommunication** can occur. The message that the sender intended may not be what the receiver perceives. Example – A person bends over and pets a dog on the head, intending to be friendly. The dog perceives the bending over and petting as a threat (because looming over another is what dogs do when threatening) and bites the person. Because the communication systems of dogs and people aren't the same, miscommunication happens quite frequently. The more people know about dog signals and their meaning (that is, learn to read and speak dog) the less likely the miscommunication will be.

Personal space and **flight distance** are related concepts. There is no set size of the personal space of dogs. It will depend upon the past experiences of the dog, how he was socialized, and the relationship he has with the other individual. It might be 50 feet for one dog with an unfamiliar person and 2 inches for the same dog with his owner. The importance of this is that if you get too close to a dog, bad things might happen.

Territory is like personal space but is tied to a particular plot of ground. The ancestors of dogs (wolves) are territorial, but most dogs are not territorially aggressive (thank goodness!). Some dogs mark their territories with urine or even use urine to mark sign posts away from their territories. Urine marking isn't always related to territories or aggression. Dogs that are territorially aggressive might be friendly with an unfamiliar person away from the territory and threatening to the same person on the territory. Dogs sometimes treat the family vehicles as their moving territories and become threatening around them.

Dogs are highly social animals and are greatly influenced by the behavior of other dogs, and sometimes, people. **Social facilitation** refers to the tendency for behaving dogs to draw others into their activities. We've all seen dogs start barking at one end of a street and soon all the dogs on the street are barking. Not all behaviors are socially facilitated but some important ones like barking, eating and aggression can be. Be aware that if you are near a group of dogs and one becomes threatening, the others may become threatening as well. Also if you become threatening to another person in the presence of your dog, or if your dog thinks you are threatening, your dog may become threatening too.

Affiliative behaviors help to keep animals, or animals and people, close to one another and to cement bonds between them. In dogs, laying close to another (sometimes on top of them!) is a very friendly behavior as is leaning on another, putting a paw on them and following them around. Submissive behaviors like face licking, submissive

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grinning, or rolling over on the back are also friendly behaviors that are meant to keep animals together. Other affiliative behaviors in dogs are social play, sexual and parental behavior, care soliciting by young animals and sharing of food. Encouraging affiliative behaviors among your dogs and doing some of these behaviors yourself my help to strengthen your bonds.

Play behavior can be social, with another animal or person, or object play, where the dog plays alone with a stick or ball, or can be locomotor play such as a dog racing around the yard by herself. Dogs play far more than most other animals and do much more as adults than other animals. Encouraging social play can strengthen bonds between the players.

Greeting displays such as barking, jumping up, licking faces and showing other submissive behaviors help animals to identify the intentions of the other and clearly give signals of friendly intentions. It can be hard to control obnoxious greetings from dogs such as jumping up and barking.

Some submissive behaviors and maybe other behaviors such as staying near another, can be used to help patch up strained relationships after some conflict. It is sort of a doggie way of saying “I’m sorry”. These behaviors are seen in other highly social animals like chimpanzees and elephants and are known as **reconciliation behaviors**.

THOUGHT QUESTIONS

- 1) Can you think of two other common miscommunications between dogs and people?
- 2) Can you think of ways you can use social facilitation to encourage behaviors you want? Give an example.
- 3) What can people do who want to strengthen the bonds between them and their dogs?

CANINE BODY POSTURES

Dogs reveal their motivations, emotions and intentions in their body language. Key features to focus on include general body position, piloerection, and orientation of the dog to you or others. Observe tail position, ear position, the showing of teeth, facial muscle contraction around the mouth, opening of the eyes and dilation of pupils, and orientation of the eyes. Listen for vocalizations. The different motivations, such as offensiveness and defensiveness, can often be discriminated by differences in body language.

No one feature or cue is a reliable indicator of the animal's motivation or intentions. Observe the whole complex of the dog's features. Body postures and motivations are dynamic and can change quickly. You should continuously monitor dogs you are working with for sudden changes in behavior.

Offensively threatening dogs will usually show one or more of the following:

1. Standing up tall with a stiff body posture, oriented towards the subject of the threat.
2. Piloerection (erection of the hair) on the back.
3. Tail straight up in a vertical line, it may be wagging slowly.
4. Ears up and forward or pricked forward.
5. Direct eye contact or staring.
6. Teeth bared with vertical retraction of the lips.
7. Barking and/or growling.

Fearful or submissive dogs will usually show:

1. Crouched body posture, or lying down especially rolled over on the back exposing the belly. Will usually try to move away from the source of the fear.
2. Tail tucked between the legs.
3. Ears pinned back against the skull.
4. Eyes wide open to expose the sclera, avoidance of direct eye contact.
5. Lips may be retracted exposing the teeth in a submissive grin.
6. Whining, whimpering or yelping.
7. Shaking, panting, urinating or defecating.
8. Dogs in pain may show these characteristics as well.

Defensively threatening dogs will usually show a mixture of offensive and fearful characteristics:

1. Crouched body posture.
2. Piloerection ("hackles up") may occur.
3. May or may not be directly oriented towards the subject of the threat.
4. Tail usually down.
5. Ears may be pinned back.
6. Eyes not directly staring. May look away from subject of threat, or alternate between staring and avoidance of contact.
7. Teeth bared in horizontal retraction of lips.

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8. May be growling, barking or whining and whimpering.

Dogs experiencing conflicting emotional or motivational states will show:

1. Displacement or irrelevant behaviors such as frequent yawning, licking of the lips, grooming or sleeping.
2. Ambivalent behaviors – alternating between different motivational states such as fear and friendliness or submission and defensive threat or offensive and defensive threats and aggression.
3. Redirected behaviors – Behaviors directed at other animals or people not directly involved with the animal. Redirected aggression is particularly dangerous for others in the area if a dog is aggressively motivated but cannot get to the original target.

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REFERENCES AND RECOMMENDED READINGS

Domestication

Budiansky, S. 2000. **The Truth About Dogs**. New York: Viking

Clutton-Brock, J. 1999. **A Natural History of Domesticated Mammals, 2nd Ed.** New York: Cambridge Univ. Press.

Clutton-Brock, J. 1995. Origins of the dog: domestication and early history. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.7-20.

Coppinger, R. and L. Coppinger. 2001. **Dogs: A startling new understanding of canine origin, behavior and evolution**. New York: Scribner.

Coppinger, R. & Schneider, R. 1995. Evolution of working dogs. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.21-47.

Genetics of Behavior

Willis, M.B. 1995. Genetic aspects of dog behaviour with particular reference to working ability. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.51-64.

Hart, B.L. 1995. Analysing breed and gender differences in behaviour. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.65-78.

Manning, A. and M.S. Dawkins. 1998. **An Introduction to Animal Behavior**. Fifth Edition. New York: Cambridge University Press.

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Early Experiences and Behavior

Serpell, J. & Jagoe, J.A. 1995. Early experience and the development of behaviour. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.79-102.

McCune, S., McPherson, J.A. & Bradshaw, J.W.S. 1995. Avoiding problems: the importance of socialization. In Robinson, I. Ed. **The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership**. New York: Pergamon Press pp.71-86.

Hetts, S. **Pet Behavior Protocols. What to Say, What to Do, When to Refer**. 1999.Lakewood, CO: American Animal Hospital Association Press, pp. 50-51.

Social Behavior and Communication

Bradshaw, J.W.S. & Nott, H.M.R. 1995. Social and communication behaviour of companion dogs. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.115-130.

Lockwood, R. 1995. The ethology and epidemiology of canine aggression. In Serpell, J.Ed. **The Domestic Dog: Its Evolution, Behaviour and Interactions With People**. New York: Cambridge Univ. Press, pp.131-138.

Hetts, S. **Pet Behavior Protocols. What to Say, What to Do, When to Refer**. 1999.Lakewood, CO: American Animal Hospital Association Press, pp. 53-55.